REMARKS

The Applicant has requested the entry of a Request for Continued Examination of the present application. Claims 1 to 50 are pending in the present application and claims 1 to 33 have been elected for prosecution on the merits following the Examiner's assertion of a Restriction Requirement. The Applicant has cancelled claims 12, 15, 17 to 27 and 29, without prejudice, as being drawn to non-elected subject matter. The Applicants reserve the right to reinstate the subject matter of said claims upon allowance of the subject matter of original claim 29, now included in amended claim 1.

The Applicant has amended claims 1 and 28 to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Support for the present amendments is found throughout the specification and claims, as originally filed. No new matter has been added and no additional claims fees are believed to be due. The Applicant urges that the above-listed Amendments, when considered in light of the below Remarks, have placed the present application in condition for allowance. Accordingly, timely and favorable action is respectfully requested.

Objection to the claims

The Examiner has objected to claims 1 to 50, purportedly because claims 1 to 33 contain non-elected subject matter. Moreover, the Examiner asserts that claim 1 fails to include a definition of R_{14}, which is set forth in the present specification. In response, the Applicant respectfully directs the Examiner's attention to the "Amendments" section of the instant paper, in which the Applicant has amended claims 1 and 28 to remove any non-elected subject matter and to limit the subject matter of said claims to original claim 29, the subject matter of which is now recited by amended claim 1. Further, the Applicant has cancelled claims 12, 15, 17 to 27 and 29, *without prejudice*, as being drawn to non-elected subject matter. The Applicant reserves the right to reinstate the subject matter of said claims upon allowance of present claim 1. Moreover, the Applicant has amended claim 1 to recite a definition of R_{14}. Support for the present amendments is found throughout the specification and claims, as originally filed and specifically on page 23, lines 5 to 8 of the present specification. In light of the present amendments, the Applicant respectfully requests reconsideration and withdrawal of the objection to claims 1 to 50.

Rejection under 35 USC § 112, Second Paragraph

The Examiner has rejected claim 1 under 35 USC § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant(s) regard as the invention. Specifically, the Examiner asserts that claim 1 contains the terms "biohydrolyzable amide," "biohydrolyzable ester," "biohydrolyzable imide," and "salt" of the structure. The Examiner asserts that the aforementioned terms are ambiguous and self-conflicting, as it is not clear whether the salt is an addition salt of an acid or base compound, whether the salt is part of the Markush element, whether the hydrolysable ester is a precursor that can be hydrolyzed into one of

the Markush compounds, or whether the hydrolysable ester is a Markush member to be hydrolysed.

The Applicant respectfully directs the Examiner's attention to the "Amendments" section of the instant paper, in which the Applicants have amended claim 1 to delete the aforementioned terms, and instead, revise the definition of R^2 to include mono- and polyvalent inorganic cations and mono- and polyvalent organic cations. In light of the present amendments, the Applicant respectfully requests reconsideration and withdrawal of the rejection to claim 1 under 35 USC § 112, second paragraph.

Rejection under 35 USC § 102(b) over Aristoff

The Examiner has rejected claims 1 to 33 under 35 USC § 102(b) as allegedly being anticipated by AN: 1982:406057 to Aristoff et all (hereinafter "Aristoff"). Specifically, the Examiner asserts that Aristoff teaches prostaglandin compounds that are useful in reducing gastric secretion. Further, the Examiner asserts that Aristoff discloses intermediate species RN 76794-01-9, which is purportedly a species of the first compound of present claim 29 (now amended claim 1), wherein "a" is a double bond.

The Applicant respectfully directs the Examiner's attention to the "Amendments" section of the instant paper, in which the Applicant has amended claim 1, which is expressly limited to the subject matter of elected claim 29, to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Specifically, the Applicant has amended claim 1, and specifically the definition of R^1, to recite that, in the case of a monovalent heterogeneous group, the member atom directly adjacent to phosphorous (P) cannot be oxygen. The Applicant urges that the amended definition of R^1 removes any possibility of the claimed compounds being phosphinic acid, as those described by Aristoff. In light of the amendment to claim 1, the Applicant respectfully requests reconsideration and withdrawal of the rejection to claims 1 to 33 under 35 USC § 102(b).

Rejection under 35 USC § 102(b) over Biddlecom

The Examiner has rejected claims 1 to 33 under 35 USC § 102(b) as allegedly being anticipated by US Patent Number 4,171,331 to Biddlecom et al (hereinafter "Biddlecom"). Specifically, the Examiner asserts that Biddlecom teaches species examples of the claimed compounds in Example V (column 29, lines 58 to 66 and column 30, lines 1 to 12); Example IX (column 32, lines 60 to 66 and column 33, lines 1 to 9). The Examiner further asserts that the aforementioned compounds of Biddlecom are species of the second compound of present claim 29, wherein "a" is a double bond.

The Applicant respectfully directs the Examiner's attention to the "Amendments" section of the instant paper, in which the Applicant has amended claim 1, which incorporates the subject matter of elected claim 29, to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Specifically, the Applicant has amended the definition of R^1 to recite that, in the case of a monovalent heterogeneous group, the member atom directly adjacent to phosphorous (P) cannot be oxygen. The Applicant urges that the amended definition of R^1 removes any possibility of the claimed compounds being

phosphinic acid, as those described by Biddlecom. In light of the present amendments, the Applicant respectfully requests reconsideration and withdrawal of the rejection to claims 1 to 33 under 35 USC § 102(b).

Rejection under 35 USC § 103(a) over Biddlecom

The Examiner has rejected claims 1 to 33 under 35 USC § 103(a) as allegedly obvious over Biddlecom. Specifically, the Examiner asserts that Biddlecom teaches species examples of the claimed compounds in Example V (column 29, lines 58 to 66 and column 30, lines 1 to 12); Example IX (column 32, lines 60 to 66 and column 33, lines 1 to 9). The Examiner asserts that the aforementioned compounds are species of the second compound of present claim 29, wherein "a" is a double bond. The Examiner further asserts that Biddlecom generically teaches the instant compounds in column 7, lines 34 to 67 and column 8, lines 1 to 21. The Examiner asserts that a person of ordinary skill in the art would be motivated to prepare the instant compounds because of the aforementioned species examples of Biddlecom. The Examiner's rejection is respectfully traversed.

The Applicant respectfully directs the Examiner's attention to the "Amendments" section of the present communication, in which the Applicant has amended claim 1, which contains the subject matter of elected claim 29, to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Specifically, the Applicant has amended the definition of R^1 in claim 1 to recite that, in the case of a monovalent heterogeneous group, the member atom directly adjacent to phosphorous (P) cannot be oxygen. In light of the present amendments, the Applicant respectfully submits that Biddlecom neither teaches nor suggests a phosphonic acid compound, as recited by the instant claims. Rather, the disclosure of Biddlecom is limited to phosphinic acid compounds, which the Applicant has learned are associated with minimal activity. Thus, reconsideration and withdrawal of the rejection to claims 1 to 33 under 35 USC § 103(a) are respectfully requested.

CONCLUSION

Attached at the conclusion of this communication is a "Version With Markings To Show Changes Made." Applicants have made an earnest effort to place the present claims in condition for allowance. WHEREFORE, entry of the amendments provided herewith, reconsideration of the claims as amended in light of the Remarks provided, withdrawal of the claims rejections, and allowance of Claims 1 to 33, as amended, are respectfully requested. In the event that issues remain prior to allowance of the noted claims, then the Examiner is invited to call Applicants' undersigned attorney to discuss any remaining issues.

Respectfully submitted,

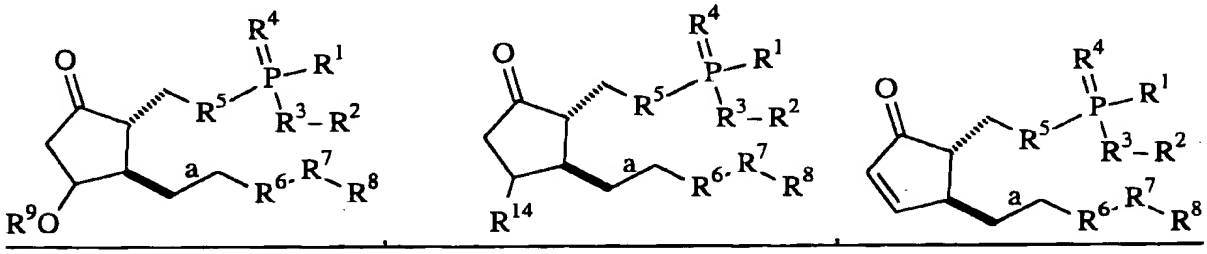
By _____

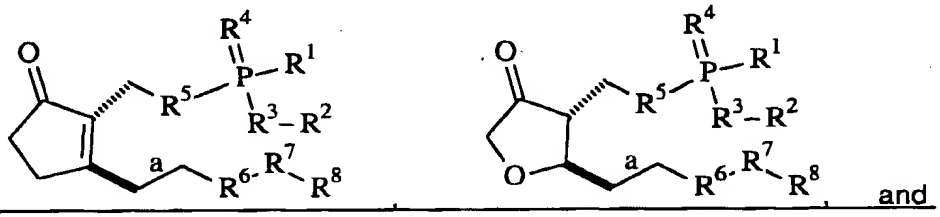
Frank Taffy, *Esq.*
Attorney for Applicants
Registration No. 52,270
(513) 634-9315

19 June 2003
Cincinnati, Ohio
Amendment After Final.doc

VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Twice Amended) A 2-decarboxy-2-phosphinico prostaglandin ~~compound having a structure selected from the group consisting of:~~ derivative having a structure selected from the group consisting of:





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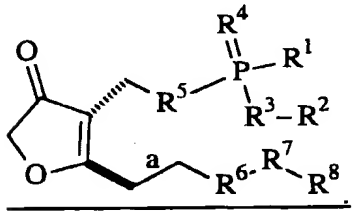
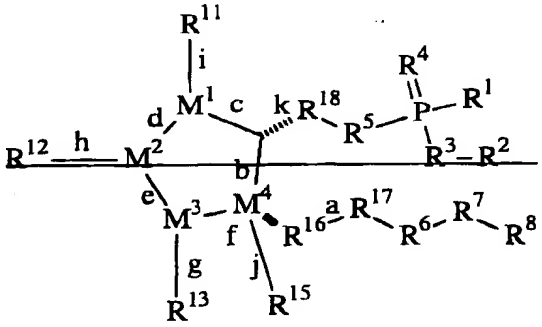




wherein bond a is selected from the group consisting of a single bond, a *trans* double bond, and a triple bond;

~~each of bonds b, c, d, e, and f are independently selected from the group consisting of a single bond and a double bond;~~

~~each of bonds g, h, i, and j are independently selected from the group consisting of nil, a single bond, and a double bond;~~

~~bond k is selected from the group consisting of a single bond and a double bond;~~

R^1 is selected from the group consisting of a hydrogen atom, a monovalent hydrocarbon group having 1 to 4 carbon atoms, and a monovalent heterogenous group having 1 to 4 member atoms, wherien the member atom directly adjacent to P in said heterogenous group is not oxygen;

R^2 is selected from the group consisting of a hydrogen atom, a monovalent hydrocarbon group, a substituted monovalent hydrocarbon group, a monovalent heterogeneous group, a substituted monovalent heterogeneous group, a carbocyclic group, a substituted carbocyclic group, a heterocyclic group, a substituted heterocyclic group, an aromatic group, a substituted aromatic group, a heteroaromatic group, ~~and~~ a substituted heteroaromatic group, a mono- or polyvalent inorganic cation and a mono- or polyvalent organic cation;

R^3 is selected from the group consisting of an oxygen atom, a sulfur atom, and NH;

R^4 is selected from the group consisting of an oxygen atom and a sulfur atom;

R^5 is a divalent group selected from the group consisting of a hydrocarbon group, a substituted hydrocarbon group, a heterogeneous group, and a substituted heterogeneous group;

R^6 is nil or a divalent group selected from the group consisting of $-CH_2-$, -C(O)- and $-C(R^{10})(OR^{10})-$;

R^7 is nil or a divalent group having the formula $-(CD(D))_p-X-(CD(D))_q-$, wherein p is an integer from 0 to 3 and q is an integer from 0 to 3, X is selected from the group consisting of an oxygen atom, a divalent hydrocarbon group, a sulfur atom, SO, SO_2, and ND, and each D is independently selected from the group consisting of a hydrogen atom, a monovalent hydrocarbon group of 1 to 4 carbon atoms, and a monovalent heterogenous group of 1 to 4 member atoms;

R^8 is selected from the group consisting of a hydrocarbon group, a substituted hydrocarbon group, a heterogenous group, a substituted heterogenous group, a carbocyclic group, a substituted carbocyclic group, a heterocyclic group, a substituted heterocyclic group, an aromatic group, a substituted aromatic group, a heteroaromatic group, and a substituted heteroaromatic group;

R^9 is selected from the group consisting of a hydrogen atom, a monovalent hydrocarbon group of 1 to 4 carbon atoms, and a monovalent heterogenous group of 1 to 4 member atoms; and

R^{14} is independently selected from the group consisting of nil, a hydrogen atom, a halogen atom, a monovalent hydrocarbon group of 1 to 4 carbon atoms, and a monovalent heterogenous group of 1 to 4 member atoms.

~~R^{10} is selected from the group consisting of a hydrogen atom, a monovalent hydrocarbon group of 1 to 4 carbon atoms, and a monovalent heterogenous group of 1 to 4 member atoms;~~

~~M^1, M^2, M^3, and M^4 are each independently selected from the group consisting of a carbon atom and a heteroatom, with the proviso that no two heteroatoms may be adjacent;~~

~~R^{11}, R^{12}, R^{13}, and R^{15} are each independently selected from the group consisting of nil, a halogen atom, a heteroatom, and R^2, with the provisos that~~

~~optionally, R^{11} and R^{12}, R^{12} and R^{13}, or R^{11} and R^{13} may be bonded together to form a ring structure such as a carbocyclic group, a heterocyclic group, an~~

~~aromatic group, a heteroaromatic group, a substituted carbocyclic group, a substituted heterocyclic group, a substituted aromatic group, or a substituted heteroaromatic group;~~

~~when R^{11} is OR^9, R^{12} is a hydrogen atom, and M^2 is a carbon atom; R^{13} is not a hydrogen atom, OR^9, a monovalent hydrocarbon group of 1 to 4 carbon atoms, a monovalent heterogeneous group of 1 to 4 carbon atoms, a substituted monovalent hydrocarbon group of 1 to 4 carbon atoms, or a substituted monovalent heterogeneous group of 1 to 4 carbon atoms;~~

~~R^{13} is not $N(R^9)(OR^9)$ when bond g is a single bond and R^{13} is not NOR^9 when bond g is a double bond, and~~

~~R^{13} is not OR^9 when R^{11} is OR^9; M^1, M^2, M^3, and M^4 are each carbon atoms, and R^{12} is a hydrogen atom;~~

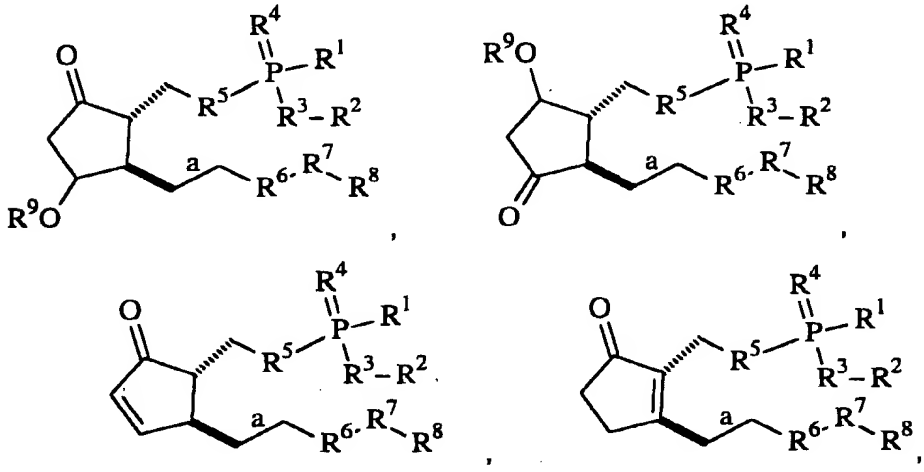
~~R^{16} is selected from the group consisting of $-CH_2-$, $-NH-$, and $-NR^{19}-$, wherein R^{19} is selected from the group consisting of hydrocarbon groups, substituted hydrocarbon groups, heterogeneous groups, and substituted heterogeneous groups; with the proviso that R^{19} may optionally be bonded together with R^8 to form a ring structure selected from the group consisting of heterocyclic groups and substituted heterocyclic groups;~~

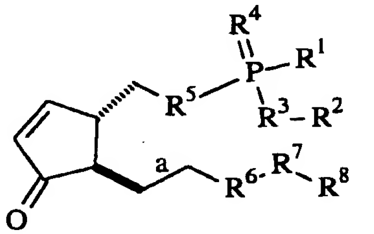
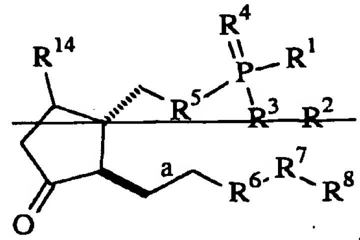
~~R^{17} is selected from the group consisting of $-SO_2-$, $C(O)$, and $-CH_2-$;~~

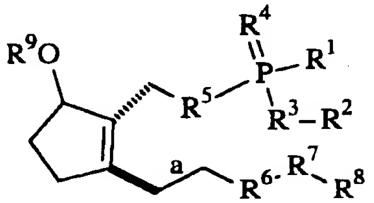
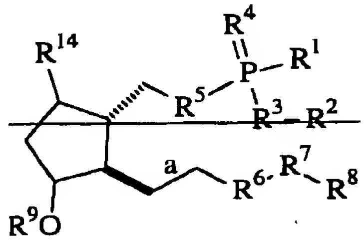
~~R^{18} is selected from the group consisting of a sulfur atom and $-CH_2-$; and~~

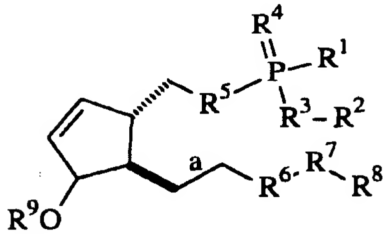
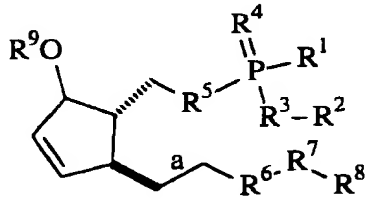
~~an optical isomer of the structure described above, a diastereomer of the structure, an enantiomer of the structure, a pharmaceutically acceptable salt of the structure, a biohydrolyzable amide of the structure, a biohydrolyzable ester of the structure, and a biohydrolyzable imide of the structure.~~

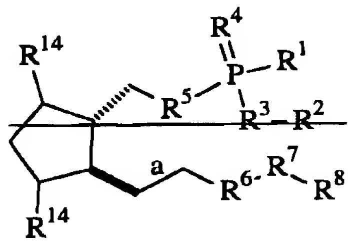
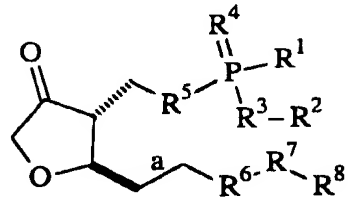
28. (Twice Amended) The compound of claim 1, wherein the derivative has a structure selected from the group consisting of:

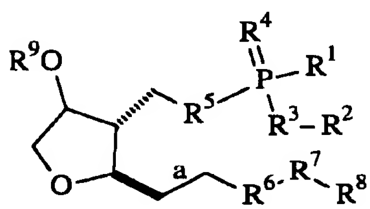
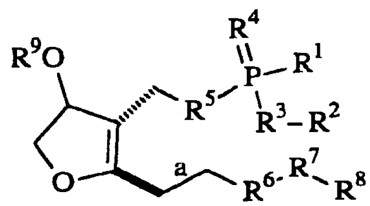


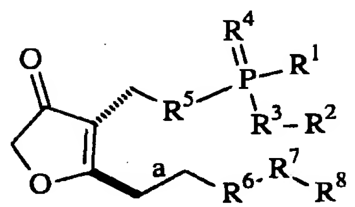
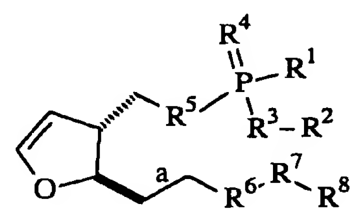
 ,
 ,

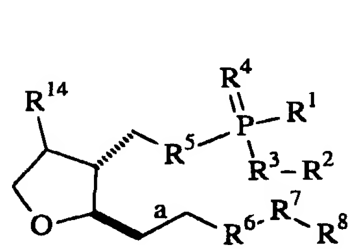
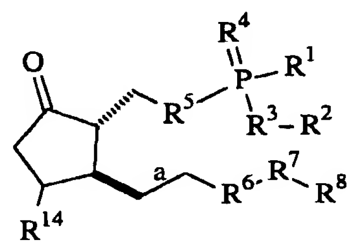
 ,
 ,

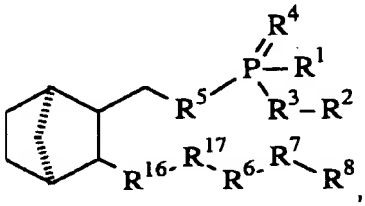
 ,
 ,

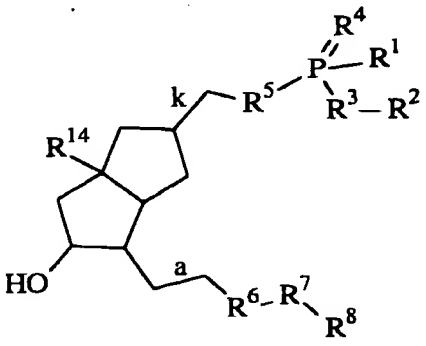
 ,
 ,

 ,
 ,

 ,
 ,

 ,
 ,





wherein R^{14} is independently selected from the group consisting of nil, a hydrogen atom, a halogen atom, a monovalent hydrocarbon group of 1 to 4 carbon atoms, and a monovalent heterogenous group of 1 to 4 member atoms.